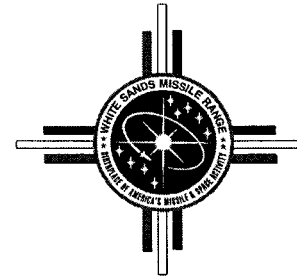


RECORD OF DECISION



White Sands Missile Range

Range-Wide Environmental Impact Statement

Updated: November 6, 1998

Introduction

This document records the decision for the White Sands Missile Range (White Sands) proposed action as delineated in the Range-Wide Environmental Impact Statement (White Sands EIS).

Purpose and Need

White Sands is the largest, all-overland test range in the United States. It is an extensive and complex range consisting of launch sites, target areas, instrumentation, buildings, equipment, and personnel. These unique characteristics are needed by the U.S. Army, U.S. Navy, U.S. Air Force, National Aeronautics and Space Administration, and other federal and commercial testing concerns to conduct safe, large-scale experiments on advanced weapons and space flight systems. Changes in the character of advanced weapons systems present new challenges to White Sands in hosting research and tests of these new systems. White Sands must be prepared to respond efficiently and flexibly to these variable conditions. The purpose of the proposed action is to provide the test bed flexibility required to meet these challenges.

Decision

The decision resulting from the findings of this EIS is the long term operation of White Sands Missile Range with the proposed adoption of specific mitigation measures for the continuation of existing programs and the future testing of scientific, military, and commercial systems. The White Sands Real Property Planning Process will continue, including periodic reviews, updates, and the integration of the White Sands Decision Analysis System and Geographic Information System as decision-support tools.

This EIS does not constitute final National Environmental Policy Act (NEPA) documentation for specific future projects at White Sands or for other currently unknown direct, indirect, or cumulative adverse consequences of specific future projects. This EIS will provide a broad environmental planning baseline for other NEPA processes and documents. Specific projects and the associated potential environmental impacts will need to be addressed in subsequent analyses specific to the project location and associated activities. The need for appropriate NEPA documentation will be determined for each project. All proposed action elements will comply with federal, state, local, and U.S. Army environmental regulations, health and safety regulations, and permit requirements. This EIS will be a source of information, but not a substitute for any required project-specific NEPA documentation.

Summary Of Issues Developed From The Scoping Process

Scoping refers to the process under NEPA during which at the earliest stages of the development of an EIS, the general public and public officials are given the opportunity to identify issues of concern for consideration in the preparation of the EIS. A Notice of Intent (NOI) for Preparation of an EIS for Projects and Activities Associated with Future Programs at White Sands was published in the Federal Register on April 15, 1993. The NOI invited public comments on issues, activities, and alternatives to be considered in the EIS. Public scoping meetings were held in Las Cruces (May 27, 1993), Alamogordo (May 25, 1993), Socorro (May 26, 1993), and Albuquerque (June 1, 1993), New Mexico; and El Paso, Texas (May 24, 1993). In response to public interest, an additional scoping meeting was held in Monticello, Utah on June 3, 1993. The scoping period closed on June 18, 1993. All public comments received were categorized according to the issues raised, summarized, and incorporated into this EIS.

At the initiation of the EIS process, 42 people attended the six scoping meetings, and 28 people submitted comments either at the meetings, by mail, or by telephone. Comments were submitted on 13 topic areas, as summarized below. Thirty-one reviewers of the June 1994 Draft EIS provided written comments. An additional 15 members of the public provided oral comments on the White Sands EIS program at four public hearings held in November, 1994. The comments and responses are found in the White Sands EIS Comment Response Document (CRD). The CRD is available to interested reviewers upon written request.

Proposed Action

The proposed action of this EIS is the long term operation of White Sands with the proposed adoption of specific mitigation measures for the continuation of existing programs and the future testing of scientific, military, and commercial systems. This

proposed action includes two major components. The first component is the continuation of current project activities and existing operations and services including routine maintenance; modernization or removal of outdated facilities; and improvements in infrastructure, utilities, and services as necessary. The second component consists of changes in the number of projects and programs planned for the next 10-year period, with resulting changes in site usage and services. The program changes may include both expansions and reductions in the scope of existing activities, with consequent requirements for either increases or decreases in infrastructure and services (since changes in the scope of operations at White Sands cannot be predicted, follow-on environmental analysis as part of planning will be required). The proposed action includes adoption of mitigation measures to reduce the effect of White Sands activities on the environment.

Alternatives

No-Action Alternative

The no action alternative is the primary alternative considered. This alternative represents the status quo. Under this alternative, White Sands would remain a viable national range which supports missile development and test programs for the Army, Navy, Air Force, NASA, and other government and private organizations. Chapter 1 of the White Sands Missile Range Installation Environmental Assessment (1985) describes the current activities at White Sands Missile Range.

The no action alternative is the continuation of existing missions and operations at approximately their current scope and rates, but without the adoption of specific mitigation measures.

The alternative of closing White Sands is considered to be out of scope of this analysis. There are no Congressional, Department of Defense, or U.S. Army indications that this option is contemplated. A special NEPA process to address the closure and conversion of military bases has been established for such analyses.

Alternatives Considered But Not Further Analyzed

The preliminary alternative identified for consideration in the NOI, but not further analyzed in the EIS, focuses on testing of future systems and expansion of the mission into nuclear effects testing and launches into White Sands from off the range. Ongoing simulated nuclear effects testing is included in current operations and is analyzed accordingly in this EIS. (This research is more accurately referred to as nuclear effects simulation and does not involve the testing of actual nuclear weapons.) A separate NEPA process has been implemented with respect to current off-range launches into White

Sands and is addressed in the Theater Missile Defense Extended Test Range Final EIS.

General Mitigation Measures

White Sands Missile Range will use the White Sands Decision Analysis System and Geographic Information System (DAS/GIS) or some other automated environmental decision support system during the planning stage to assist in planning projects so as to minimize environmental impacts, and to identify any additional required mitigation measures. The White Sands Real Property Planning Process will continue, including periodic review, updates, integration of the DAS/GIS, and adherence to the plan as a decision-support tool. White Sands has management practices for the conservation of sensitive natural resources, including wildlife, endangered species, and wetlands. These management practices will continue to be applied to all sensitive natural resources within White Sands. Best management practices and common erosion control techniques will be used in ground disturbing activities. These practices have general application: they minimize water contamination by overland flow, reduce soil loss by wind and water erosion, reduce the period of recovery in restoration efforts, reduce visual and aesthetic impacts, help minimize extent and duration of habitat loss, and in many other ways assist in environmental management.

These same mitigation measures will be integrated into the DAS/GIS and will provide future project proponents with environmental information, site location decision support, and regulatory approval at significant cost savings and with improved efficiency. As a result, White Sands will be better able to protect, restore, and enhance the range environment as it more effectively supports its operational mission.

Mitigation Measures Incorporated In The Proposed Action

The mitigation measures proposed as integral components of the proposed action are critical to its effective implementation. They are designed to minimize or eliminate the potential for adverse consequences, particularly but not exclusively the cumulative impacts that arise from the ongoing operation of large testing activities at White Sands. Subsequent project-specific activities with potential impacts will still require separate environmental analysis which may entail additional, specific mitigation measures.

The following mitigation measures by resource are incorporated in the proposed action.

The mitigation measures included in the proposed action are those that can be identified at the present time using available information. White Sands Missile Range may require future project proponents to adopt additional mitigation measures depending on project-specific data and on additional data that will be collected in relation to environmental resources at White Sands.

Geologic and Soil Resources

Once a route into a recovery area has been established, the same route will be used for subsequent entries, to the extent possible, to minimize the damage throughout the area and to minimize the need for repeated environmental surveys for entry routes into the same locale. Appropriate landscaping and building design techniques will be employed to prevent water/wind erosion caused or increased by permanent or long-term structures. Revegetation will be implemented where determined necessary by the White Sands Missile Range Land Manager.

Hydrologic Resources

Best management practices and common erosion control techniques will be used in ground disturbing activities. Storm water management strategies will be implemented as prescribed in the latest storm water management plans for the various White Sands facilities, or per the Environmental Protection Agency (EPA) under National Pollutant Discharge Elimination System regulatory compliance guidelines. All necessary equipment, personnel, and training will be maintained as necessary to ensure compliance with the Spill Prevention Control and Countermeasures Plan. Engineering and planning programs will continue to anticipate future water and wastewater system improvements, and utility upgrades.

Air Quality

White Sands will comply with State of New Mexico air quality regulations. Dust suppressants will be used to suppress fugitive dust generation during maintenance of extensive exposed surfaces of soils known to generate nonpoint fugitive dust emissions. Additional mitigation measures to reduce the adverse air quality impacts of fugitive dust sources will include minimization of new roads and the reclamation, including revegetation, of old roads and cleared areas. Ambient air monitoring will be maintained during and after laser testing at the High Energy Laser System Test Facility.

As a part of documentation planned to supplement this EIS, White Sands will collect air emissions data to assess the cumulative impact of the proposed action and to expand the

data base for White Sands air quality regulatory compliance.

Biological Resources

A wide variety of habitats occur within White Sands. The majority of these habitats are dominated by desert vegetation. Wetlands occur on White Sands, but compose less than two percent of the total habitat. Information currently exists on a number of these wetland sites. In some cases, such as Salt Creek, water quality data is currently being gathered and a long-term monitoring program has been established. As activities on White Sands continue, additional data on wetland sites will be gathered. In any instance where there is a question of possible impacts to wetlands, White Sands will request review by the U.S. Army Corps of Engineers (COE) and EPA for Section 404 of the Clean Water Act permit applicability, and permit review and certification by New Mexico Environment Department (NMED) under Section 401 of the Clean Water Act. The location and type of any wetlands within proposed project areas will be determined. Potential impacts will be analyzed and verified with field investigations. Any activities potentially affecting jurisdictional wetlands will be reviewed for permit applicability by COE and EPA under Section 404, and by the NMED for state review and certification under Section 401. Wherever practicable, White Sands will avoid impacts to jurisdictional wetlands. If avoidance of wetlands is not practicable, then White Sands will implement measures to mitigate impacts to wetland sites. Mitigative measures will be site specific and developed on a case-by-case basis in coordination with the COE, U.S. Fish and Wildlife Service (USFWS), and EPA. The measures may include enhancement or enlargement of existing wetlands or potentially the creation of new wetlands.

Beginning with, but not limited to a DAS/GIS data base review, surveys for threatened and endangered species will be undertaken in undocumented or inadequately surveyed areas where suitable habitat exists. A qualified biologist will monitor all construction operations involving critical habitat disturbance. Examples of such activity include, but are not necessarily limited to, soil test borings, road construction, excavation of building foundations, support structure installation, and related construction activities. All facilities will be sited to avoid or minimize potential harm to protected, threatened, and endangered plant and animal species. Siting of new access roads and subsequent road construction will consider potential habitat disturbance or destruction which could result from diversion of water run-off from existing drainage patterns. Potential impacts on sensitive species identified during project-specific surveys will be evaluated and subsequent documents will be tiered to the White Sands EIS. Mitigation or avoidance measures to minimize any potentially significant impacts will be identified in these documents. The USFWS and the New Mexico Department of Game and Fish (NMDGF) will be contacted if any proposed action is anticipated to impact listed species, species proposed for listing, or under review for listing as endangered or threatened under the Endangered Species Act. All data gathered on threatened, endangered, and candidate species will be reported to the USFWS and the NMDGF to assist in sustaining status records. Proactive management efforts for the protection and enhancement of federally listed species will be developed in coordination with the USFWS and the NMDGF.

The greatest likelihood of significant adverse consequences to biological resources exists during recovery actions requiring entry into previously unsurveyed areas. Recovery procedures are generally foreseeable and rarely constitute emergencies for the purposes

of exceptions under environmental regulation. In order to meet minimum environmental protection requirements under NEPA and the Endangered Species Act during any recovery action outside of the approved and surveyed area, proposed entry routes and project-related disturbance areas will be reviewed through the DAS/GIS data base. In the event that overriding project or other environmental requirements prohibit an adequate survey, a biologist or other qualified representative from the White Sands Missile Range will accompany the recovery team, if required. This individual will assist in the selection of an entry path that will minimize the potential for adverse impacts. In addition, this individual will identify any activity with potential impacts on sensitive resources and assist in avoiding those impacts. Off-road travel required for other activities will be minimized and coordinated with the White Sands Directorate of Environmental and Safety. White Sands Missile Range may prohibit off-road travel in sensitive areas.

Range personnel will be instructed concerning the prohibition against taking, collecting, harassing, or injuring protected species. Range personnel or members of the public caught violating federal and state laws intended to protect biological resources will be referred to the appropriate authorities for prosecution. To the extent practicable, signs will be posted near protected habitat warning of penalties for unauthorized harm to protected biological resources.

Socioeconomics

No potentially adverse socioeconomic effects of the proposed action have been identified to date. Any proposals for changes in White Sands programs that could affect regional community planning will be analyzed in the appropriate level of NEPA documentation, tiered to the White Sands EIS. These impacts will be assessed and reviewed with municipal and state officials to assist them in responding to any need for increases or decreases in community services or employment.

Cultural Resources

Project proponents will incorporate cultural resource assessment, DAS/GIS database reviews, surveys in undocumented areas, and monitoring programs into proposed projects at the earliest possible planning stage. This includes cultural resource surveys of areas where no data exist and that exhibit a valid potential for cultural resources. Cultural resources will be avoided if practicable, if not, data recovery will be conducted as directed by the White Sands Archaeologist in consultation with the New Mexico State Historic Preservation Officer (SHPO) under Section 106 of the National Historic Preservation Act as implemented by the existing Programmatic Memorandum of Agreement (PMOA). Potential impacts on cultural resources identified during project-specific surveys will be evaluated as required in NEPA documents tiered to the White

Sands EIS. Mitigation or avoidance measures to minimize any potential adverse effects will be identified in these evaluations.

During any recovery action in an unsurveyed area, proposed entry routes and project-related disturbance areas will be reviewed through the DAS/GIS database and surveyed in advance, when practicable. In the event that overriding project or other environmental requirements preclude an adequate survey, an archaeologist or other qualified representative from White Sands Missile Range will accompany the recovery team if practicable. This individual will assist in the selection of the entry path that will minimize the potential for adverse effects and will identify and assist in avoiding or otherwise record any activity with potential impacts on cultural resources. White Sands Missile Range may require project proponents to implement additional mitigation measures beyond those stated in the project NEPA document if an adverse effect is identified.

Off-road travel required for recovery actions and other activities will be minimized and coordinated with the White Sands Missile Range Directorate of Environment and Safety. White Sands Missile Range may prohibit off-road travel in areas of sensitive cultural resources.

Before construction, firebreaks will be surveyed for cultural resources and rerouted to avoid any significant discoveries. Projects that could produce fires will be reviewed in advance to protect identified cultural resources. The White Sands Missile Range Directorate of Environment and Safety will inform fire control personnel of site avoidance procedures.

Mitigation of any potential impacts of construction on cultural resources will be accomplished through relocation of the project to avoid the resource site; fencing of the site to exclude vehicles and trespassers; by data recovery; or other approved action designed to protect values for which the site is considered significant.

The White Sands Missile Range Directorate of Environment and Safety will be notified immediately if any historic or archaeological resources are discovered during construction or other ground disturbing activities. Construction must halt in the vicinity of cultural resources per Section 9.C of the PMOA. The White Sands Archaeologist will assess any potential adverse effects and consult with the SHPO to determine an appropriate course of action. The final determination as to the adequacy of proposed mitigation measures will be made through consultation between White Sands and the SHPO's office or if Native American Graves Protection and Repatriation Act issues are

involved, with the appropriate Native American tribes.

All potential visual impacts to culturally sensitive areas related to proposed new facilities will be assessed by the White Sands Archaeologist in consultation with the SHPO. Potential light pollution effects will be mitigated as described in section 5.11 of the EIS.

Land Use

No potentially adverse effects of the proposed action on land use have been identified. As the DAS/GIS system is applied to future projects in the development of NEPA documentation tiered

to this EIS, cumulative and indirect impacts will be assessed. Mitigation measures will be required if adverse impacts are identified. Scheduling conflicts will be resolved by coordination within White Sands Missile Range.

Infrastructure

No potentially adverse effects of the proposed action on infrastructure have been identified to date. Improvements to the WSMR transportation system, water system, and sanitary waste water treatment systems will be assessed on a case-by case basis to determine potential impact and mitigation requirements.

White Sands will establish design parameters and equipment operating procedures to ensure that peak electric loading is minimized, and that electric machines and other apparatus are efficient in design and maintained for efficient operation. Electricity studies will consider load sharing, off-peak operations, and scheduling constraints to ensure that Range users would have required levels of electricity to meet time-sensitive missions.

Traffic and Transportation

No potentially significant adverse effects of the proposed action on traffic and transportation networks have been identified to date. Cumulative and indirect impacts will be comprehensively analyzed in documentation proposed to supplement this EIS. Mitigation measures will be required if adverse impacts are identified.

Recreation

No potentially adverse effects of the proposed action on recreation have been identified. As the DAS/GIS system is applied to future projects in the development of NEPA documentation tiered to this EIS, cumulative and indirect impacts will be scrutinized. Mitigation measures will be required if adverse impacts are identified.

Aesthetics and Visual Resources

No potentially adverse effects of the proposed action on aesthetic and visual resources have been identified to date. Any construction projects that would have impacts on views from buildings included in or eligible for the National Register of Historic Places would be planned to minimize such impacts. As the DAS/GIS system is applied to future projects in the development of NEPA documentation tiered to the White Sands EIS, cumulative and indirect impacts will be scrutinized. Mitigation measures will be developed if adverse impacts are identified.

Noise

The public will continue to be excluded from areas where a potential exposure to harmful noise levels may exist. White Sands personnel are required to use hearing protection devices in any

environment where they may be exposed to harmful noise levels. Warning signs are posted in areas where high noise levels may occur. Personnel are administered periodic hearing tests in compliance with U.S. Army hearing conservation programs.

On-range operations are conducted in remote areas to the extent possible. Any potential impacts of project-specific noise on wildlife will be addressed in project-specific NEPA documentation. Potentially adverse impacts will be avoided. Restricted areas (such as the San Andres National Wildlife Refuge) where sensitive wildlife exists will be avoided by restricting aircraft to higher than 610 m (2,000 ft) above ground level (AGL).

Radiation and Spectral Electromagnetic Interference

The existing restrictions to public access and the safety procedures and monitoring for White Sands personnel will continue in order to prevent any exposure to harmful radiation levels. No potentially adverse impacts of radiation on wildlife have been identified. Concerns expressed by the National Radio Astronomy Observatory related to significant spectral electromagnetic interference from White Sands have been considered in the White Sands EIS. Additional attention to these concerns will be applied in follow-on analysis documentation proposed to supplement the EIS.

During operations, the following mitigation measures will be taken by the project to avoid potential electromagnetic interference (EMI):

- A spectrum usage agreement will be developed in coordination with the DoD Area Frequency Coordinator.**
- The project will schedule operations in advance using the Universal Documentation System to document test parameters.**
- The project will conduct tests using adequate test and measuring equipment to assure that the public is not threatened by potentially harmful EMI.**
- All tests will comply with all applicable provisions of Army Regulation 5-12 Army Management of the Electromagnetic Spectrum and DoD Directive 4650-1, Management and Use of the Radio Frequency Spectrum.**

Hazardous Materials/Hazardous Waste

Several mitigation measures have been incorporated to reduce potential impacts associated with hazardous materials/waste management. These measures include the following:

- coordination of inspections by White Sands Environmental Services Division;
- upgrading or removing above ground storage tanks and underground storage tanks (USTs), and associated piping to reduce the potential for releases of stored fuels;
- installation of leak detection systems in USTs;
- implementing a hazardous materials tracking and hazardous waste minimization plan;
- increasing safety and fire department inspections of hazardous material/waste storage and use areas and review of emergency contingency plans;
- upgrading of existing impoundments and inspection of impoundments to determine if hazardous materials are being or have been released into soil and groundwater;
- increasing efforts to remove and abate lead paint; and
- implementing in situ remediation of contaminated sites wherever practicable

Health and Safety

Health and safety planning and implementation are inherent mitigation functions. At White Sands, these functions are proactive and comprehensive, both on and off the Range. All White Sands operations require thorough health and safety planning at the earliest stages of facility planning and operational design. These health and safety requirements are implemented during all phases of operation, from initial construction, through the life of the facility, to final disposition. Through this approach, the vast majority of potential health and safety hazards are avoided entirely or reduced to extremely low probabilities. Despite these successful range-wide risk minimization efforts, the possibilities for unforeseen or improbable emergencies are not discounted. Emergency response planning and implementation also are given the highest priority at White Sands. Responsive emergency management is not a process limited to on-site operations at White Sands. Regional cooperation with a wide range of federal, state, and community law enforcement and emergency agencies is fundamental to achieve the necessary level of coordination, communication, and emergency services in the sparsely populated areas surrounding and including White Sands.

COMMITMENT MANAGEMENT SUMMARY

The White Sands EIS is lacking in several areas of both baseline documentation and impacts analysis. It is stated in the EIS and the Comment Response Document that these insufficiencies will be rectified by the preparation of supplemental documentation. A general approach

(Appendix D of the White Sands EIS) for technical support analysis documents is in the Commitment Management Summary (CMS). Specific approaches for the individual analyses are described in detail in the section titled Technical Support Documents (TSD).

As specified in 40 CFR 1502.22: *When an agency is evaluating reasonably foreseeable significant adverse effects on the human environment in an environmental impact statement and there is incomplete or unavailable information, the agency shall always make clear that such information is lacking.* The CMS documents the areas where information is lacking in the White Sands EIS and takes this regulatory requirement a step further in specifying how White Sands will remedy the problem through the preparation of TSDs.

The benefits of EIS supplements in the form of TSDs are obvious in that a missing or insufficient baseline will be remedied and impacts can be analyzed in deeper detail than is possible within the limitations of the EIS. Additionally, the series of currently identified TSDs and future supplements will ensure the living document platform of the White Sands EIS as a dynamic component of White Sands environmental planning. The environmental baseline will be regularly updated by the incorporation of supplemental information resulting from the specified TSDs and by other tiered NEPA documentation.

The following is a general description of the CMS as a plan for augmenting the White Sands EIS:

- For the insufficient resource area baseline, follow-on analyses are planned. These analyses will either be based on proposed/funded investigative programs (e.g., emissions analysis) or, when possible, based on data generated by future project or program-specific environmental compliance documentation. A third approach to generating these analyses will be a consolidated effort by one or more White Sands Missile Range directorates or tenants to sponsor the effort (e.g., comprehensive missile and debris recovery actions analysis).
- The follow-on analyses are being undertaken to enhance the EIS's programmatic, "living" document orientation that not only satisfies the NEPA compliance requirement but also serves as a dynamic environmental resource baseline.
- An annual written summary of the TSDs, NEPA documentation, and other environmental documentation will be made available to regulatory agencies and

the public. Annual and as-needed informational meetings will be held to involve the community. Quarterly written information will be available to provide the public a regular status update and findings of the TSDs specified below.

Technical Support Documents

Technical Support Documents (TSDs) will utilize data from the White Sands Missile Range Universal Documentation System and from existing environmental and natural resource management data bases. Existing NEPA and other environmental documentation will be reviewed for applicability.

- The data will be reviewed for appropriate program or system classification (i.e., data representing a generic enough system to be used for tiering or follow-on baseline modeling; e.g., typical solid fuel propellant constituents for air quality or hazardous material analysis).
- Where they exist, baseline modeling techniques originally used in the EIS, will be reviewed and modified if necessary. The techniques will be examined for their applicability in statistical analysis, quantitative and qualitative comparative analysis. In cases where statistical or scientific data do not exist, and generalized comparisons have been documented, these comparisons will continue to be used in the TSDs in the absence of quantitative analyses. Necessary quantitative data missing in the comparisons would potentially result in the requirement for a longer term data gathering process than that originally prescribed in the TSD (e.g., for cumulative impacts analysis).

As outlined in the CMS, TSDs can be implemented for planned activities at WSMR and tiered from the White Sands Missile Range EIS. TSDs will provide sufficient environmental information to determine the environmental impact of these activities.

The current actions and insufficiencies identified in the White Sands Missile Range EIS that require supplemental documentation through the TSD process include:

- White Sands Missile Range Water Resources Analysis (anticipated completion fiscal year 1998),
- Emissions Analysis (including analyses of noise, electromagnetic interference, lasers, light emissions and light pollution, radio astronomy interference, and Global Positioning System interference) (anticipated completion fiscal year 1998),
- Integrated Natural Resources Management Plan (anticipated completion fiscal year 2002),
- Cumulative Impacts Analysis (anticipated completion fiscal year 1999).

TSDs may be prioritized by immediate need, schedule, or availability of funding.

Date HARRY D. GATANAS

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Commanding

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